

CLAIM AMENDMENTS

1-16 (canceled)

17. (new) A common rail fuel injection apparatus for controlling fuel injection, comprising:

a body part defining an interior space and also defining a fuel inlet and a fuel outlet that open respectively into and from said interior space, whereby fuel to be injected in operation of the fuel injection apparatus flows through said interior space,

a piston means movable in said interior space alternately towards and away from the fuel outlet,

wherein the apparatus provides flow connection between the fuel inlet and the fuel outlet by at least a first flow path that provides continuous flow connection and a second flow path of which the cross-sectional flow area increases when the piston means moves towards the fuel outlet.

18. (new) A common rail fuel injection apparatus according to claim 17, wherein said second flow path includes a plurality of passages formed in the piston means and spaced apart along an axis of movement of the piston means.

19. (new) A common rail fuel injection apparatus according to claim 17, wherein the piston means divides the interior space of the body part into an inlet chamber into which the fuel inlet opens and an outlet chamber from which the fuel outlet extends, the piston means has an internal chamber that forms at least part of said inlet chamber and also has an external surface that bounds said outlet chamber, said second flow path includes a plurality of passages formed in the piston means and extending from said internal chamber to said external surface, and said passages are spaced apart along an axis of movement of the piston means.

20. (new) A common rail fuel injection apparatus according to claim 17, wherein said second flow path includes a passage formed in the piston means and elongated along an axis of movement of the piston means.

21. (new) A common rail fuel injection apparatus according to claim 17, wherein the piston means divides the interior space of the body part into an inlet chamber into which the fuel inlet opens and an outlet chamber from which the fuel outlet extends, the piston means has an internal chamber that forms at least part of said inlet chamber and also has an external surface that bounds said outlet chamber, said second flow path includes a passage formed in the piston means and extending from said internal chamber to said external surface, and said passage is elongated along an axis of movement of the piston means.

22. (new) A common rail fuel injection apparatus according to claim 17, comprising a piston actuator for moving the piston means in said space independently of pressure of fuel.

23. (new) A common rail fuel injection apparatus according to claim 17, wherein the body part has a control edge, on one side of the control edge the piston means is in contact with the body part and on an opposite side of the control edge the piston means is spaced from the body part, and movement of the piston means past the control edge effects change in the cross-sectional area of the second flow path.

24. (new) A common rail fuel injection apparatus according to claim 17, wherein the piston means divides the interior space of the body part into an inlet chamber into which the fuel inlet opens and an outlet chamber from which the fuel outlet extends, the piston means and the body part define a damping space, and the damping space is in communication with the inlet chamber.

25. (new) A common rail fuel injection apparatus according to claim 24, comprising a spring located in the damping space for urging the piston means towards the fuel inlet.

26. (new) A common rail fuel injection apparatus according to claim 24, wherein the damping space is in communication with the inlet chamber by way of a passage formed in the piston means.

27. (new) A common rail fuel injection apparatus according to

claim 24, wherein the piston means has a first end disposed towards the fuel outlet and a second end disposed towards the fuel inlet, and the damping space is in communication with the inlet chamber by way of a passage formed in the piston means at the second end thereof.

28. (new) A common rail fuel injection apparatus according to claim 17, wherein the piston means is tubular and has a wall thickness smaller than the internal diameter of the piston means.